

Appln No. 09/780,962
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Reply to Office action of June 4, 2004

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Original) In a system comprising a communications network connecting a plurality of network servers and a plurality of computers, a network server comprising:

 a verification database comprising;

 at least one master table of contents identifier corresponding to each of a plurality of sets of digitized content; and

 at least one master songprint identifier corresponding to each of the plurality of sets of digitized content; and

 wherein the network server is programmed to;

 receive at least one of a plurality of selections of table of contents identifiers from at least one of the plurality of computers;

 receive at least one of a plurality of songprint identifiers from the at least one of the plurality of computers.

2. (Original) The server of claim 1, further programmed to receive one selection of table of content identifiers from the at least one of the plurality of computers.

3. (Original) The server of claim 1, further programmed to receive a songprint identifiers from the at least one of the plurality of computers.

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4. (Original) The server of claim 1, wherein the table of content identifiers comprised of a concatenation of the lengths of the sets of digitized content.

5. (Original) The server of claim 1, further programmed to request at least one of a plurality of regions of digitized content from the at least one of the plurality of computers.

6. (Original) The server of claim 5, further programmed to request one region of digitized content from the at least one of the plurality of computers.

7. (Original) The server of claim 5, wherein the request for one or more regions of digitized content is generated as a function of a pseudo-random sequence.

8. (Original) The server of claim 7, wherein the pseudo-random sequence is a function of a network address of the at least one of the plurality of computers.

9. (Original) The server of claim 7, wherein the pseudo-random sequence is a function of the time of day.

10. (Original) The server of claim 7, wherein the pseudo-random sequence is a function of both a network address of at least one of the plurality of computers and the time of day.

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11. (Original) The server of claim 7, wherein the request for regions of digitized content is further comprised of a request for at least one of a plurality of decoy regions of digitized content from the at least one of the plurality of computers.

12. (Original) The server of claim 11, wherein the request for a at least one of a plurality of decoy regions of digitized content is a function of a pseudo-random sequence.

13. (Original) The server of claim 12, wherein the pseudo-random sequence is a function of a network address of the at least one of the plurality of computers.

14. (Original) The server of claim 12, wherein the pseudo-random sequence is comprising a function of the time of day.

15. (Original) The server of claim 12, wherein the pseudo-random sequence is comprising a function of both a network address of the at least one of the plurality of computers and the time of day.

16. (Original) The server of claim 11, wherein the request for one or more than regions of digitized content is further comprised of only one non-decoy region of digitized content from the at least one of the plurality of computers.

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17. (Original) The server of claim 1, wherein the verification database is further comprised of only one master table of contents identifier for each of a corresponding plurality of sets of digitized content.

18. (Original) The server of claim 1, wherein the verification database is further comprised of only one master songprint identifier for each of a corresponding plurality of sets of digitized content.

19. (Original) The server of claim 1, further programmed to verify whether the received table of content identifier correlates with the master table of content identifier.

20. (Original) The server of claim 1, further programmed to verify whether the received table of content identifiers correlates perfectly with the master table of content identifier.

21. (Original) The server of claim 1, further programmed to verify whether the received songprint identifiers correlates with the master songprint identifier.

22. (Original) The server of claim 1, further programmed to verify whether the received songprint identifier correlates perfectly with any master songprint identifier.

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23. (Currently amended) In a system comprising a communications network connecting a plurality of network servers and a plurality of computers, a network server comprising:

a verification database comprising;

at least one master table of contents identifier corresponding to each of a plurality of sets of digitized content; and

at least one master songprint identifier corresponding to each of the plurality of sets of digitized content; and

wherein the network server is programmed to;

receive at least one of a plurality of selections of table of contents identifiers from at least one of the plurality of computers;

receive at least one of a plurality of selections of songprint identifiers from the at least one of the plurality of computers; and

as a function of whether or not the received selections of table of ~~content~~ contents identifiers correlate with the master table of content identifier, request at least one of a plurality of regions of digitized content from the at least one of plurality of computers.

24. (Original) The network server of claim 23, further programmed to verify whether the received selections of table of content identifiers correlates perfectly with the master table of content identifiers.

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25. (Currently amended) In a system comprising a communications network connecting a plurality of network servers and a plurality of computers, a network server comprising:

a verification database comprising;

at least one master table of contents identifiers corresponding to each of a plurality of sets of digitized content; and

at least one master songprint identifier corresponding to each of [[a]] the plurality of sets of digitized content; and
wherein the network server is programmed to;

receive at least one of a plurality of selections of table of contents identifiers from at least one of the plurality of computers;

receive at least one of a plurality of selections of songprint identifiers from the at least one of the plurality of computers; and

as a function of whether or not the received selections of songprint identifiers correlate with any of the master table of content identifiers, request at least one region of digitized content from the at least one of plurality of computers.

26. (Original) The network server of claim 25, further programmed to verify whether the received selections of songprint identifiers correlate perfectly with any of the master table of content identifiers.

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27. (Currently amended) In a system comprising a communications network connecting a plurality of network servers and a plurality of computers, a network server comprising:

a verification database comprising;

at least one master table of contents identifier corresponding to each of a plurality of sets of digitized content; and

at least one master songprint identifier corresponding to each of [[a]] the plurality of sets of digitized content;

wherein the network server is programmed to;

receive at least one of a plurality of selections of table of contents identifiers from at least one of the plurality of computers;

receive at least one of a plurality of selections of songprint identifiers from the at least one of the plurality of computers; and

as a function of whether or not the received selections of table of contents identifiers and selections of songprint identifiers correlate with any of the plurality of master table of content identifier, request at least one of a plurality of regions of digitized content from the at least one of plurality of computers.

28. (Original) The network server of claim 27, further programmed to verify whether the received selections of table of content identifiers correlate perfectly with the master table of content identifiers and the received selections of songprint

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identifiers correlate perfectly with the master songprint identifiers.

29. (Currently amended) In a system comprising a communications network, at least one of a plurality of network servers comprised of a verification database comprising at least one master table of contents identifier corresponding to each of a plurality of sets of digitized content and at least one master songprint identifier corresponding to each of [[a]] the plurality of sets of digitized content content, and at least one of a plurality of computers, the method of identifying digitized content stored on a medium comprising the steps:

the network server receiving at least one of a plurality of selections of table of contents identifiers from at least one of the plurality of computers; and,

the network server receiving at least one of a plurality of selections of songprint identifiers from at least one of the plurality of computers.

30. (Original) The method of claim 29, wherein the step of receiving at least one of a plurality of selections of table of contents identifiers comprises receiving one selection of table of content identifiers from the at least one of the plurality of computers.

31. (Original) The method of claim 29, wherein the step of receiving at least one of a plurality of selections of songprint

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identifiers comprises receiving one selection of songprint identifiers from the at least one of the plurality of computers.

32. (Original) The method of claim 29, further including the step of verifying whether one of the received selections of table of content identifiers correlates with any of the master table of content identifiers.

33. (Original) The method of claim 29, further including the step of verifying whether one of the received selections of table of content identifiers correlates perfectly with any of the master table of content identifiers.

34. (Original) The method of claim 29, further including the step of verifying whether one of the received selections of songprint identifiers correlates with any of the master songprint identifiers.

35. (Original) The method of claim 29, further including the step of verifying whether one of the received selections of songprint identifiers correlates perfectly with any of the master songprint identifiers.

36. (Currently amended) In an electronic device containing one or more sets of digitized content stored on a medium, the method of generating table of contents identifiers comprising the steps:

reading table of contents data from the medium;

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computing a cryptographic hash value of the concatenation of the lengths of ~~each track~~ a plurality of tracks on the medium; and

truncating the cryptographic hash value.

37. (Withdrawn) In an electronic device containing one or more sets of digitized content stored on a medium, the method of generating a songprint identifier comprising the steps:

averaging the two stereo channels of the digitized content to produce a single channel;

dividing the songprint region into chunks of predetermined size;

discarding any partial chunks;

de-trending each chunk;

windowing each chunk;

calculating spectral components for each chunk;

computing a first portion of the songprint identifier; and

computing a second portion of the songprint identifier;

38. (Withdrawn) The method of claim 37, wherein the step of windowing each chunk further comprises a Hanning window.

39. (Withdrawn) The method of claim 37, wherein the step of calculating spectral components for each chunk further comprises a Fast Fourier Transform function.

40. (Withdrawn) The method of claim 37, wherein the step of computing a first portion of the songprint identifier further

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comprising of calculating the mean of corresponding spectral components from each chunks.

41. (Withdrawn) The method of claim 37, wherein the step of computing a second portion of the songprint identifier is further comprised of calculating the standard deviation of corresponding spectral components from each chunk.

42. (Withdrawn) In a system comprising a communications network, at least one of a plurality of network servers comprised of a verification database comprising at least one master table of contents identifiers for each of a corresponding plurality of sets of digitized content, the master table of contents identifier further comprised of data stored in fields, and least one plurality of computers comprising at least one of a plurality of sets of digitized content, the method of selecting sets of digitized content from the verification database comprising the steps:

the network server sorting the verification database by fields contained in the master table of contents identifiers;

receiving at least one table of contents identifier from at least one of the plurality of computers;

extracting data from the at least one received table of contents identifiers corresponding to the field used in the sort;

selecting an entry in the sorted verification database containing data in the field used in the sort that best matches the extracted data;

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determining if the neighboring data in the sorted verification database is within a specified limit from the extracted data; and

selecting all entries in the sorted verification database containing data in the field used in the sort that is within the specified limit from the extracted data.

43. (Withdrawn) The method of claim 42, wherein the step of sorting the verification database by fields is further comprised of sorting based on the medium length.

44. (Withdrawn) The method of claim 42, wherein the step of sorting the verification database by fields is further comprised of sorting based on the length of the first digitized content.

45. (Withdrawn) The method of claim 42, wherein the step of sorting the verification database by fields is further comprised of sorting based on the length of the last digitized content.

46. (Withdrawn) The method of claim 42, wherein the step of sorting the verification database by fields is further comprised of sorting based on the length of the longest digitized content.

47. (Withdrawn) The method of claim 42, wherein the step of sorting the verification database by fields is further

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comprised of sorting based on the length of the shortest digitized content.

48. (Withdrawn) In a system comprising a communications network, at least one of a plurality of network servers comprised of a verification database comprising at least one master songprint identifier for each of a corresponding plurality of sets of digitized content, and least one of a plurality of computers comprising at least one of a plurality of sets of digitized content, the method of selecting sets of digitized content from the verification database comprising the steps:

receiving at least one of a plurality of songprint identifiers from at least one of the plurality of computers;

computing the root-mean-square difference between the master songprint identifier and the received plurality of songprint identifiers; and

selecting the sets of digitized content corresponding to the master songprint identifier in the verification database that has the smallest root-mean-square difference.

49. (Withdrawn) In a system comprising a communications network, at least one of a plurality of network servers comprised of a verification database comprising at least one master table of contents identifier comprised of data stored in fields, and at least one master songprint identifier for each of a corresponding plurality of sets of digitized content, and least one of a plurality of computers comprising at least one of

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a plurality of sets of digitized content, the method of selecting sets of digitized content from the verification database comprising the steps:

the network server sorting the verification database by fields contained in the master table of contents identifiers;

receiving at least one table of contents identifier from at least one of the plurality of computers;

receiving at least one songprint identifier from the at least one of the plurality of computers;

extracting data from the at least one received table of contents identifier corresponding to the field used in the sort;

selecting a best matched entry from the sorted verification database containing data in the field used in the sort that best matches the extracted data;

selecting entries in the sorted verification database neighboring the best matched entry containing data in the field used in the sort within a specified limit from the extracted data; and

computing the root-mean-square difference between the at least one received songprint identifier and the master songprint identifier in the sorted verification database corresponding to the selected best matched entry and selected neighboring entry; and

selecting the sets of digitized content corresponding to the master songprint identifier in the verification database that has the smallest root-mean-square difference.

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50. (Withdrawn) In a system comprising a communications network, at least one of a plurality of network servers comprised of a verification database comprising at least one of a plurality of master hash data identifiers generated randomly from each of a corresponding plurality of sets of digitized content, and least one of a plurality of computers comprising at least one of a plurality of sets of digitized content, the method of verifying the sets of digitized content comprising the steps:

the network server receiving data from one of the plurality of computers;

calculating a hash data identifier for the received data; and

computing the difference between the calculated hash data identifier and the master hash data identifier in the verification database.

51. (Withdrawn) The method of claim 50, wherein the step of computing the difference is further comprised of computing the difference between the root-mean-square of the calculated hash data identifier and the root-mean-square of the master hash data identifier in the verification database.

52. (Withdrawn) In a system comprising a communications network, at least one of a plurality of network servers comprised of a verification database comprising at least one of a plurality of master songprints generated randomly from each of a corresponding plurality of sets of digitized content, and

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least one of a plurality of computers comprising at least one of a plurality of sets of digitized content, the method of verifying the sets of digitized content comprising the steps:

the network server receiving data from at least one of the plurality of computers;

calculating a songprint identifier for the received data; and

computing the root-mean-square difference between the calculated songprint identifier and the master songprint identifier in the verification database.

53. (Withdrawn) In a system comprising a communications network, at least one of a plurality of network servers comprised of a verification database comprising at least one of a plurality of master hash data identifiers and at least one of a plurality of master songprints generated randomly from each of a corresponding plurality of sets of digitized content, and least one of a plurality of computers comprising at least one of a plurality of sets of digitized content, the method of verifying the sets of digitized content comprising the steps:

the network server receiving data from one of the plurality of computers;

calculating a hash data identifier for the received data;

computing the difference between the calculated hash data identifier and the master hash data identifier in the verification database; and

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computing the root-mean-square difference between the calculated songprint identifier and the master songprint identifier in the verification database.

54. (Withdrawn) The method of claim 53, wherein the step of computing the difference is further comprised of computing the difference between the root-mean-square of the calculated hash data identifier and the root-mean-square of the master hash data identifier in the verification database.